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Applicants: Joseph P. Vacanti, Christopher K. Breuer, Beverly E. Chaignaud
and Toshiraru Shin'Oka

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For: *ENGINEERING OF STRONG, PLIABLE TISSUES*

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

Pursuant to 37 C.F.R. §1.56 and 37 C.F.R. §1.97, Applicants submit an Information Disclosure Statement, including twenty-seven (27) pages of Form PTO-1449. All of the documents cited below were cited by or submitted to the Patent Office in Application Serial No. 09/185,360, filed November 3, 1998, now U.S. Patent No. 6,348,069, to which the present application claims priority. Pursuant to 37 C.F.R. §1.98(d), Applicants are not enclosing copies of these publications. Copies will be provided upon request, however.

This Information Disclosure Statement is being filed under 37 C.F.R. § 1.97(b) prior to a first Office Action on the merits. It is believed that no fee is required with this submission. However, should a fee be required, the Commissioner is hereby authorized to charge any required fees to Deposit Account No. 50-1868.

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Remarks

This statement should not be interpreted as a representation that an exhaustive search has been conducted or that no better art exists. Moreover, Applicants invite the Examiner to make an independent evaluation of the cited art to determine its relevance to the subject matter of the present application. Applicants are of the opinion that their claims patentably distinguish over the art referred to herein, either alone or in combination.

Respectfully submitted,



Patrea L. Pabst
Reg. No. 31,284

Date: February 19, 2004

HOLLAND & KNIGHT LLP
One Atlantic Center, Suite 2000
1201 West Peachtree Street
Atlanta, Georgia 30309-3400
(404) 817-8514
(404) 817-8588 (Fax)

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		First Named Inventor	Joseph P. Vacanti
		Group Art Unit	3738
		Examiner Name	D. Isabella
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		Filing Date	November 3, 1998
		First Named Inventor	Joseph P. Vacanti
		Group Art Unit	3738
		Examiner Name	D. Isabella
Sheet 3 of 27	Attorney Docket Number	MIT 6917 (CMCC 450) DIV	

U.S. PATENT DOCUMENTS						
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		4,458,678		Yannas, et al.	07-10-1984	
		4,485,096		Bell	11-27-1984	
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		4,559,304		Kasai, et al.	12-17-1985	
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		4,689,293		Goosen, et al.	08-25-1987	

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		DE	35 18 150			10-23-1986		
		DE	28 53 614			07-26-1979		
		JP	62 011 459			01-20-1987		
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		EP	0 361 957			09-29-1989		
		EP	0 344 924			05-05-1989		
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		WO	89/00413			01-26-1989		
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		WO	94/21299			09-24-1994		
		WO	92/06702			04-30-1992		
		WO	92/07525			05-14-1992		

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		WO	93/07913			04-29-1993		
		WO	93/08850			05-13-1993		
		WO	93/16687			09-02-1993		
		WO	94/25079			11-10-1994		

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		ALLCOCK, H. R., et al., "Hydrolysis Pathways for Aminophosphazenes ¹ ," <u>Inorg.Chem.</u> 21(1):515-521 (Jan. 1982).		
		ALLCOCK, H. R., et al., "Amphilphilic Polyphosphazenes as Membrane Materials: Influence of Side Group on Radiation Cross Linking," <u>Biomaterials</u> 9(6):500-508 (Nov. 1988).		
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		ALLCOCK, H. R., et al., "Polyphosphazenes with Etheric Side Groups: Prospective Biomedical and Solid Electrolyte Polymers," <u>Macromolecules</u> 19:1508-1512 (1986).		

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		ALLCOCK & KWON, "An Ionically Cross-Linkable Polyphosphazene: Poly[bis(carboxylatophenoxy)phosphazene] and Its Hydrogels and Membranes," <u>Macromolecules</u> 22:75-79 (1989).	
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		CAO, et al., "Bone Reconstruction with Tissue Engineered Vascularized Bone," (Abstract) April 30 - May 3, 1995	

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			Filing Date		November 3, 1998	
			First Named Inventor		Joseph P. Vacanti	
			Group Art Unit		3738	
			Examiner Name		D. Isabella	
Sheet	11	of	27	Attorney Docket Number		MIT 6917 (CMCC 450) DIV

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		DAVIS, et al., "Human Amnion Membrane Serves as a Substratum for Growing Axons in Vitro and in Vivo," <u>Science</u> , 236:1106-1109 (May 29, 1987).	
		DEL CERRO, et al., "Retinal Transplants into One Anterior Chamber of the Rat Eye," <u>Neuroscience</u> 21:(3)707-23 (June 1987).	
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		FONTAINE, et al., "Transplantation of Genetically Altered Hepatocytes Using Cell-Polymer Constructs," <u>Transplantation Proceedings</u> , 25:1002-1004 (February 1993).	
		FRESHNEY, "The Culture Environment: I. Substrate, Gas Phase, and Temperature," <u>Culture of Animal Cells</u> pp55-56 (Alan R. Liss, NY 1983).	
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		GROLLEMAN, et al., "Studies on a Bioerodible Drug Carrier System Based on Polyphosphazene," <u>Journal of Controlled Release</u> 3:143-154 (1986).	

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		GROTH, et al., "Correction of Hyperbilirubinemia in the Glucuronyltransferase-Deficient Rat by Intraportal Hepatocyte Transplantation," <u>Transplant. Proc.</u> 9:313-316 (1977).	
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		KLOMPMAKER, et al, "Porous Polymer Implants for Repair of Full-Thickness Defects of Articular Cartilage: An Experimental Study in Rabbit and Dog," <u>Biomaterials</u> 13(9):625-634 (1992).	
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		LETOURNEAU, "Possible Roles of Cell-to-Substratum Adhesion in Neuronal Morphogenesis," <u>Developmental Biology</u> , 44:77-91 (1975)	
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				Filing Date		November 3, 1998	
				First Named Inventor		Joseph P. Vacanti	
				Group Art Unit		3738	
				Examiner Name		D. Isabella	
Sheet	18	of	27	Attorney Docket Number		MIT 6917 (CMCC 450) DIV	

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		MOONEY, "Switching from Differentiation to Growth in Hepatocytes: Control by Extracellular Matrix," <u>J. Cell. Phys.</u> (151):497-505 (1992).	
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		NAUGHTON, et al., "Erythropoietin Production by Macrophages in the Regenerating Liver," <u>Journal of Surgical Oncology</u> 30:184-197 (1985).	
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		REDMOND, et al., "Transplants of Primate Neurons," <u>The Lancet</u> , 2(8510):1046 (November 1, 1986).	
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				Application Number		09/185,360
				Filing Date		November 3, 1998
				First Named Inventor		Joseph P. Vacanti
				Group Art Unit		3738
				Examiner Name		
Sheet	25	of	27	Attorney Docket Number		MIT 6917 (CMCC 450) DIV

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		VACANTI, et al., "Synthetic Polymers Seeded with Chondrocytes Provide a Template for New Cartilage Formation," <u>Journal of the American Society of Plastic and Reconstructive Surgery, Inc.</u> , 88(5):753-759 (November 1991).	
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		VAN DER KWAST, et al., "Establishment and Characterization of Long-Term Primary Mouse Urothelial Cell Cultures," <u>Urological Research</u> , 17(1):290-293 (1989).	
		VARGO, "Infection as a Complication of Liver Transplant," <u>Critical Care Nurse</u> 9(4):52-62	
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		VROEMEN, et al., "Hepatocyte Transplantation for Enzyme Deficiency Disease in Congenic Rats," <u>Transplantation</u> , 42(2):130-135 (1986).	

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				Filing Date		November 3, 1998	
				First Named Inventor		Joseph P. Vacanti	
				Group Art Unit		3738	
				Examiner Name		D. Isabella	
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		WALKER, et al., "Injectable Bioglass as a Potential Substitute for Injectable Polytetrafluoroethylene," <u>The Journal of Urology</u> 148(1):645-647	
		WALTON, et al., "Tissue Engineering of Biomaterials for Composite Reconstruction: An Experimental Model," <u>Annals of Plastic Surgery</u> 30(2):104-110 (February, 1993).	
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		YANNAS, "What Criteria Should be Used for Designing Artificial Skin Replacement and How Well do the Current Grafting Materials Meet These Criteria?" <u>J. of Trauma</u> , 24(9):S29-S39 (1984).	
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